# Manitoba Health Research Council
2006/2007 Annual Report

*Our Vision is Nurturing Excellence*

Mission Statement

# "To promote the growth and co-ordination of the health research enterprise in Manitoba"

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# Members of the Manitoba Health Research Council

**Dr. Dean Sandham†**
Chairperson
Dean of the Faculty of Medicine University of Manitoba

**Dr. Peter Cattini***
Associate Vice-President (Research)
University of Manitoba

**Dr. Joanne Embree†**
Head Department of Medical Microbiology
University of Manitoba

**Dr. Grant Hatch***
(to April 2006),
Acting Associate Dean (Research)
Faculty of Medicine
University of Manitoba

**Dr. Brent Schacter**
Chief Executive Officer
Canadian Association of Provincial Cancer Agencies/ L'association canadienne des agencies provincials du cancer (CAPCA/CAPC)

**Mr. Louis Barre**
Director
Health Information Management Manitoba Health

**Dr. Patrick Choy†***
Vice-Chairperson
Associate Dean (Research)
Faculty of Medicine
University of Manitoba

**Dr. Norman Fleming†**
Professor Faculty of Dentistry
University of Manitoba

**Dr. Colleen Metge†**
Associate Professor
Faculty of Pharmacy
University of Manitoba

**Dr. Gary Beazley**
Professor Emeritus
(to August 2006)
Department of Family Medicine University of Manitoba

**Mr. John Clarkson**
Deputy Minister
Department of Science, Technology, Energy and Mines
Province of Manitoba

**Dr. Andrew Halayko†**
Associate Professor
Departments of Physiology, Internal Medicine & Pediatrics and Child Health
University of Manitoba

**Dr. Yvonne Myal**
Associate Professor
Department of Pathology
University of Manitoba

†Members of the Executive/Finance Committee
*Appointed by the University of Manitoba

# Message from the Chair

My first full year as Chair of the Manitoba Health Research Council was an exciting and eventful year. It became a turning point in the history of the Council and in the health research community in Manitoba.

In May, MHRC hosted a three day summit during which we consulted with 150 representatives of the five estates of health research community — academia, health services, industry, non governmental organizations, and government. This consultation and the subsequent discussions throughout the summer months, led to the creation of the Envisioning the Future strategy.

The strategy represents the recommendations of the community. It is a vision for the future and a definition of strategic directions that will enable the community to achieve its goals. There is a strong sense of collaboration among individual researchers as well as among the research organizations, governments, regional health authorities and nongovernmental organizations that support and use health research. It is in this spirit that the health research community presented this shared vision for a stronger Manitoba to the provincial government in the fall.

This strategy came at a crucial time for Manitoba, as other provinces have already developed and are implementing their own strategies to support health research. Manitoba's researchers are strong competitors for federal and international funding but are beginning to lose ground as other provinces such as Quebec, British Columbia, Saskatchewan, and Nova Scotia are streamlining their research and innovation activities and focusing on increasing their investments in order to maximize the health benefits and economic returns.

As we look forward to the coming year, we focus our attention on implementing the recommendations and achieving the goals set in the strategy, in particular the recruitment and retention of researchers and the development of and support for the cadre of clinician scientists in Manitoba.

In closing I want to thank the Council and Provincial Health Research Strategy Steering Committee and every one who participated in the development of the strategy for their efforts and commitment through the past year. It is only through these types of collaborative efforts, supported by clear leadership by the Manitoba Health Research Council and increased public and private investments that the vision for a more successful future will be realized.

Dr. Dean Sandham

# Message from the Executive Director

This was indeed a pivotal year for the Manitoba Health Research Council described best by the words, consultation, collaboration and continuous improvement.

Engaging stakeholders is a catch phrase used by many to reflect a process used to engage the citizenry in policy development. This year it became part of the mandate and mindset of MHRC that reflected our need to create not only a provincial health research strategy but also a shared vision among the many groups that support, undertake and use health research in Manitoba. Throughout the three day Summit and the discussions that followed participants shared, listened and created new ideas that can be found in the strategy document.

In addition to the focus on extensive consultation and strategy development we also continued our participation on national fora designed to encourage dialogue and establish joint initiatives with other funders of health research. The National Alliance of Provincial Health Research Organizations and the Health Research Funders Forum, made up of all provincial, national and charitable funders of health research in Canada, allow Manitoba the opportunity to participate in discussions which can strengthen our local activities. We collaborated on the Impact Evaluation working group whose activities will eventually lead to the development of a common set of indicators by which we can measure our impact and progress.

The core business of MHRC is providing funding to health researchers and trainees and we work hard to continuously improve our grants management system for our applicants and peer reviewers. This year, in addition to revising our grants and awards guide and some of our applications, we added reviewers from outside of Manitoba to the majority of our committees to provide an external perspective to the committees' deliberations.

Looking to the future, we shift our activities from planning to implementing the strategy, but through this change we will continue to consult with our stakeholders to ensure we remain on the right track. We will continue to collaborate with partners locally to maximize the impact of the health research dollars spent in Manitoba and work with NAPHRO and the Health Research Funders Forum on initiatives like a researcher directory and impact analysis. Next year will also see more improvements to the administration of our grants process including the establishment of a coordinated graduate studentship and post doctoral fellowship competition among many of the local foundations and MHRC.

These improvements to the systems of MHRC and its relationship with its partners are enabled and in fact encouraged by the strategy. They will support the work of local researchers enabling them to produce and disseminate new knowledge that will eventually find its way to better health care for and the improved health status of Manitobans.

Christina Weise

Christina Weise
Executive Director

## Council Secretariat

**Ms Christina Weise**
Executive Director

**Ms Elizabeth C. Ford**
Administrative Officer

# Envisioning the Future

Health research is a significant priority for Manitoba. In recent years, the provincial government identified the need to develop a strategy to focus and realign the resources that support this enterprise. In 2005, the province asked the Manitoba Health Research Council to lead the community in developing an action plan for health research.

A key component of MHRC's strategic leadership was a three-day conference – Creating our Future: A Strategic Planning Summit for Health Research in Manitoba – held in May 2006 at the Hotel Fort Garry in Winnipeg. There, 150 stakeholders from academia, health services, non-governmental organizations, industry and government met to discuss issues, develop a vision and forge a series of measurable actions. Overwhelmingly, the stakeholders called for a shared vision, a strong leader and an increased monetary investment that will further build health research capacity in Manitoba.The result was the Envisioning the Future action plan that outlines vital steps that will increase Manitoba's national and international success in health research.

## Summit Steering Committee

Representatives from various stakeholder groups guided discussion of the topics at the summit. These individuals also served as ambassadors of this initiative to the community:

**J. Dean Sandham,** *Dean, Faculty of Medicine, University of Manitoba (Chair)*
**John Clarkson,** *Deputy Minister, Manitoba Science, Technology, Energy and Mines*
**Kevin Kavanaugh,** *Distinguished Member, Business Council of Manitoba*
**Joanne Keselman,** *Vice-President, Research, University of Manitoba*
**Arnold Naimark,** *Director, Centre for the Advancement of Medicine*
**Brian Postl,** *CEO, Winnipeg Regional Health Authority*
**Ian Smith,** *Director General, National Research Council Institute for Biodiagnostics*
**Arlene Wilgosh,** *Deputy Minister, Manitoba Health*

## How Do the Summit Participants Say We Should Proceed?

### Strategic Action 1

Establish the Manitoba Health Research Council as a coordinating body for health research in Manitoba

- **act as an advisory body to Ministers on matters relating to health research**
- **lead collaborative efforts to keep the health research community focused**
- **sponsor the development of a coordinated peer-reviewed mechanism**
- **build a transparent grant structure for resource allocation**

### Strategic Action 2

Recruit, retain and support the best research faculty

### Strategic Action 3

Facilitate research networks, linkages an I communication

### Strategic Action 4

Move research evidence into practice

## What will it take?

### Essential Condition 1

#### Increased funding

**stage I:** immediate new funding of $4.0 million to a total investment of $6 million annually

**stage II:** incremental further increases incumbent on partner contributions to the total annual funding of $17 to $20 million annually

### Essential Condition 2

#### Collaboration by Stakeholders

the Manitoba Health Research Council must provide leadership for effective partners ips among the stakeholders

# Research

"The important thing is not to stop questioning. Curiosity has its own reason for existing." — *Albert Einstein (1879-1955)*

# Grants and Awards

MHRC was established by an Act of the Legislature June 30, 1982 to promote and assist basic, clinical and applied research in the health sciences in Manitoba and advise the Minister on health research matters referred to Council. Our funding programs remain the core mechanism by which the Council achieves its mandate.

Through MHRC's long history, our focus has been on building capacity for health research in Manitoba by targeting funding towards new researchers, new recruits to Manitoba and research trainees. In each of our programs we encourage and support a broad range of human health research including basic biomedical, clinical research, health services and health systems research and research into the cultural, social and environmental determinants of health.

In 2006/07 Council approved over $2 million in research grants, awards and sponsorships (See Table 1 for details). The following section describes the funding programs and offers a list of recipients approved this year.

## Table 1: 2006 New Applications, Fundable and Funded Awards

| Grant Category | Received | | Recommended | | Approved | |
|---|---|---|---|---|---|---|
| | No. | Dollar Value | No. | Dollar Value | No. | Dollar Value |
| Establishment Grants | 11 | $498,369.00 | 6 | $272,258.00 | 5 | $236,098.00 |
| Operating Grants | 20 | $1,001,016.00 | 13 | $646,848.00 | 4 | $208,500.00 |
| Fellowship Awards | 14 | $514,500.00 | 12 | $441,000.00 | 4 | $147,000.00 |
| Studentship Awards | 102 | $1,820,700.00 | 72 | $1,213,800.00 | 29 | $517,650.00 |
| PhD Dissertation Awards | 2 | $9,787.00 | 1 | $5,000.00 | 1 | $5,000.00 |
| Bridge Funding | 5 | $115,000.00 | 4 | $85,000.00 | 4 | $85,000.00 |
| CIHR-RPP Grants | | | 23 | $980,639.00 | 23 | $980,639.00 |
| Sponsorships | 4 | $14,500.00 | 4 | $14,500.00 | 4 | $14,500.00 |
| **TOTAL** | **158** | **$3,973,872.00** | **135** | **$3,659,045.00** | **74** | **$2,194,387.00** |

# Establishment Grants

Establishment Grants are provided to recently recruited faculty members, who show exceptional promise, to focus on establishing their research programs enabling them to successfully attract national and international research funding into their labs. The awards, for up to $100,000 to be used within a 3-year period, provide support for a variety of purposes, e.g., buy-out of teaching time, salary for research personnel (other than the applicant's salary), purchase of equipment and supplies, etc.

## Focus on Funding

**Dr. Sabine Hombach-Klonisch**

*"Funding from MHRC is enormously important because it establishes a groundwork on which I'm able to apply for national funding."*

## Examining Mechanisms that Facilitate Cancer Cell Invasiveness

*Department of Human Anatomy & Cell Science, University of Manitoba*

For women in Canada, breast cancer remains the most common malignancy and its invasiveness often points to a poor prognosis. For Dr. Sabine Hombach-Klonisch, understanding the role of relaxin, a peptide hormone, in metastasis may one day lead to innovative therapeutic treatments. In her research, Dr. Hombach-Klonisch uses mouse in vivo models and cellular in vitro models to examine the mechanisms used by relaxin-like peptides to trigger the motion and migration of cancer cells.

While relaxin has been shown to increase invasiveness, Dr. Hombach-Klonisch's studies have also indicated that it acts as an anti-invasive factor. This incongruity has altered the view of relaxin's effects in breast cancer and inspired Dr. Hombach-Klonisch to explore the issue at an even deeper level.

*"The molecular mechanisms involved in relaxin's expression and its function in breast cancer aren't clear yet,"* says Dr. Hombach-Klonisch, a German-born and trained researcher. *"Our investigation will determine the roles of relaxin and its receptor in breast cancer metastasis."*

While treatment options for metastasizing breast cancer are currently limited, Dr. Hombach-Klonisch is confident her research will make a difference to women in the future. *"By initiating the targeting of specific signalling pathways with engineered relaxin mimics, we anticipate that the study will be the launching pad for new treatment strategies."*

## Recipient, Department, Institution.

**Albensi, Benedict,** *Department of Pharmacology & Therapeutics, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: Roles for PS1 mutations, calcium overload and NF-kB activation in synaptic and cognitive dysfunction.*

**Czubryt, Michael,** *Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: Regulation of cardiovascular function and disease by transcription factors and tier gene targets.*

**Hombach-Klonisch, Sabine,** *Department of Human Anatomy & Cell Science, Faculty of Medicine, University of Manitoba.*
*Title: Role of relaxin for the invasiveness and metastasis in human breast cancer.*

**Kung, Sam Kam-Pun,** *Department of Immunology, Faculty of Medicine, University of Manitoba.*
*Title: Understanding innate immunobiology in manipulation of immune responses.*

**Racine, Timothy,** *Department of Psychology, Faculty of Arts, University of Manitoba.*
*Title: Parent-child interaction and the development of children's theory of mind, executive function and emotion regulation.*

Dr. Benedict Albensi

# Operating Grants

MHRC's Operating grants are open to recently recruited faculty members and are designed to defray the normal costs of research. Grants are awarded for either one or two years enabling researchers to successfully obtain national and international funding.

## Focus on Funding

## Dr. Benedict Albensi

*"Finding funding can often be difficult and for new investigators, especially, accessing seed grants to allow you to publish is essential to building a career in medical research."*

### Understanding Calcium Regulation and Impared Memory in Alzheimer's Disease

*Department of Pharmacology & Therapeutics, University of Manitoba*

With over 400,000 Canadians suffering from Alzheimer's disease (AD), only moderately effective drugs available to treat the condition's symptoms and no cure, Dr. Benedict Albensi's research into the disorder is helping set the stage for the development of new memory-aiding drugs. Dr. Albensi's studies are at the forefront of research into the role played by intracellular calcium alterations in moderating neuronal injury in AD.

*"My lab is focusing on trying to understand memory loss by using transgenic mice models to show pathologically what happens in AD,"* explains Dr. Albensi, a research scientist at the University of Manitoba who moved to Winnipeg two years ago from the United States. *"Our experiments using transgenic mice suggest that presenilin (PSi) mutations result in excessive levels of calcium. We've identified a relationship between calcium and NF-kfs regulatory systems in PSi mice. This provides a possible explanation for how new memory formation in AD is disrupted."*

As his research continues to show positive results, Dr. Albensi says the project's future significance is emerging. *"It's helping us understand calcium regulation in AD and hopefully will lead to new drugs for AD and other impaired memory conditions,"* he says.

With current drugs offering only symptomatic relief, Dr. Albensi's work offers hope for new, more effective AD therapies.

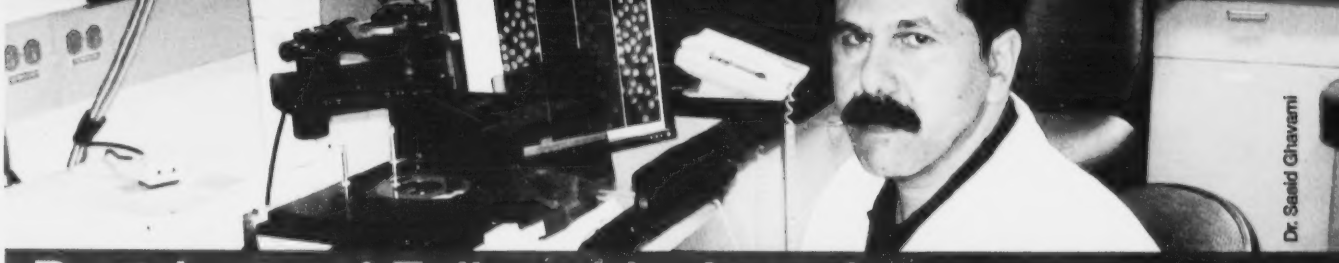
### Recipient, Department, Faculty, Institution.

**Albensi, Benedict**, *Department of Pharmacology & Therapeutics, Faculty of Medicine, University of Manitoba.*
*Title: Roles of PS1 mutations and NF-kfs in Synaptic Plasticity and Alzheimer's Disease.*

**Hitchon, Carol,** *Department of Internal Medicine, Faculty of Medicine, University of Manitoba.*
*Title: Prognosis of early undifferentiated arthritis.*

**Los, Marek,** *Department of Biochemistry & Medical Genetics, Faculty of Medicine, University of Manitoba.*
*Title: The role of Dnase-X in apoptosis, and muscle function, addressed by targeted disruption of the Dnase-X gene in murine model.*

**Mizuno, Tooru,** *Department of Physiology, Faculty of Medicine, University of Manitoba.*
*Title: Hypothalamic regulation of glucose homeostasis by xenin, a gastrointestinal peptide.*




# Postdoctoral Fellowship Awards

A limited number of fellowships are available to outstanding candidates with a doctoral degree whose prior postdoctoral research training normally does not exceed 3 years. Postdoctoral Fellows are a critical component of the research enterprise enhancing the work of established investigators and these awards support the development of the next generation of researchers.

Focus on Funding

## Dr. Saeid Ghavami

*"Funding from MHRC is both important and encouraging. It is a resource that has certainly helped increase my scientific efforts."*

### Testing Anti-tumor Properties of an Antimicrobial Peptide

*Department of Biochemistry & Medical Genetics, University of Manitoba*

In his study of skin secretions from a species of frogs, Dr. Saeid Ghavami hopes to discover how and why Brevinin 2R, an extracted peptide, kills tumors. He also intends to use the results of his research to help lay the groundwork for the development of more effective anti-tumor drugs.

At the heart of Dr. Ghavami's investigation is the antimicrobial skin secretion of a Middle Eastern frog named Rana ridibunda. Experiments using extracts of the substance revealed that Brevinin 2R, a peptide that accounted for 25 percent of the decoction, was ten times more effective at killing tumors than the base extract. What's particularly intriguing, Dr. Ghavami notes, is that the peptide is less toxic to healthy cells in a cancerous environment.

*"We're most interested in the semi-selective characteristics of Brevinin 2R,"* says the researcher who came to Canada from his native Iran in 2004. *"Current cancer therapies like chemotherapy and radiation therapy pose some danger to patients because they kill both cancerous and normal cells. We believe that more selective anti-tumor agents will make it more comfortable for cancer patients."*

Because Brevinin 2R destroys cancer cells differently than most other anticancer drugs, discovering the compound's mechanism is vital to the development of more potent and selective cancer treatments.

### Recipient (Supervisor) Department, Institution.

**Ghavami, Saeid (Dr. Marek Los)** *Department of Biochemistry & Medical Genetics, Faculty of Medicine, University of Manitoba.*
*Title: The cancer-selective properties of anuran defensin Brevinin 2R that induces apoptosis via discriminative interactions with biological membranes.*

**Weitsman, Gregory (Dr. Leigh C. Murphy)** *Department of Biochemistry & Medical Genetics, Faculty of Medicine, University of Manitoba.*
*Title: Modulation of estrogen receptor function in breast cancer cells through phosphorylation of serine 118.*

Mollie Bates

# Graduate Studentship Awards

A limited number of studentships are offered to excellent graduate students who are undertaking full-time Master's or Doctoral programs in the Province of Manitoba. These awards also aim to develop the next generation of researchers and improve the productivity of a research lab by funding graduate students.

Focus on Funding

**Mollie Bates**

*"As a young researcher, having the ability to access funding is very important because it allows me to focus on my project and not on working at outside sources to support my research."*

## Focusing on Motivation for Change in Eating Disorders

*Department of Psychology, University of Manitoba*

Mollie Bates, a young graduate student in the Department of Psychology at the University of Manitoba, believes that successfully treating a person's eating disorder depends a lot on their level of motivation to change. Because people who suffer from Anorexia Nervosa and Bulimia are often ambivalent about their recovery, in spite of the life-threatening consequences associated with the disorders, Bates is focusing on assessing the stages of change and finding ways to enhance the levels of motivation in individuals suffering from these conditions.

*"My research will investigate the relationship between readiness for change and treatment goals."* Bates, who hails from British Columbia, explains. *"I anticipate that pre-contemplative clients will opt for less directive, less intensive treatment when asked about treatment goals but I suspect I'll get the opposite results for individuals who are in the action stage."*

Bates expects her research to lead to the development of innovative treatment programs tailored to an individual's specific motivational stage. *"There are lots of programs centred on changing behaviours through action,"* she notes, *"but I believe this research will show that treatment effectiveness and overall success rates can be enhanced by focusing on how ready people are to making changes in their lives."*

## Recipient (Supervisor) Department, Faculty, Institution.

**Bates, Mollie** *(Dr. Michael LeBow) Department of Psychology, Faculty of Arts, University of Manitoba.*
*Title: How does readiness for change relate to treatment goals? An investigation of individuals with eating disorders.*

**Boese, Darren** *(Dr. Jody D. Berry) Department of Immunology, Faculty of Medicine, Canadian Science Centre for Human & Animal Health.*
*Title: Chain-shuffling of recombinant human monoclonal antibodies to infectious agents.*

**Button, Duane** *(Dr. Phillip Gardiner) Department of Physiology, Faculty of Medicine, University of Manitoba.*
*Title: The effects of altered activity on the physiological properties of rat motoneurons "In Situ".*

**Camus, Gaelle** *(Dr. Steven Jones) Department of Immunology, Faculty of Medicine, Canadian Science Centre for Human & Animal Health.*
*Title: Characterization of the immune response to Lassa virus vaccine and natural infection.*

**Deering, Kathleen** *(Dr. Stephen Moses) Department of Community Health Sciences, Faculty of Medicine, University of Manitoba.*
*Title: Understanding HIV transmission dynamics in rural India and the impact of HIV preventive interventions: a mathematical modelling approach.*

**Edmundson, Carmen** *(Dr. Donald Miller) Department of Pharmacology & Therapeutics, Faculty of Medicine, University of Manitoba.*
*Title: Identifying novel agents to lessen neurological and functional deficits following stroke.*

**Martin, Sarah** *(Dr. Andrew Halayko) Department of Physiology, Faculty of Medicine, University of Manitoba.*
*Title: Role of caveolin-1 in murine lung function and response to allergic sensitization and challenge.*

**Meghdadi, Amir Hossein** *(Dr. Reza Fazel-Rezai) Department of Electrical & Computer Engineering, Faculty of Engineering, University of Manitoba.*
*Title: Multivariate nonlinear analysis of brain EEG-fMRI signals for temporal lobe epilepsy.*

**Pankratz, Curtis** *(Dr. Evelyn Forget) Department of Community Health Sciences, Faculty of Medicine, University of Manitoba.*
*Title: Improving health care services and structures through a consideration of national approaches to social welfare.*

**Poritsanos, Nicole** *(Dr. Tooru M. Mizuno) Department of Physiology, Faculty of Medicine, University of Manitoba.*
*Title: Roles of central melanocortin system in the regulation of hepatic lipid metabolism.*

**Rashedi, Iran** *(Dr. Marek Los) Department of Biochemistry & Medical Genetics, Faculty of Medicine, University of Manitoba.*
*Title: The role of Dnase-X in cardiac and skeletal muscle function addressed by targeted disruption of the Dnase-X murine model.*

**Robinson-Epp, Nancy** *(Dr. Raymond Perry) Department of Psychology, Faculty of Arts, University of Manitoba.*
*Title: Primary and secondary control in college students: The consequences of deviant behavior for physical and mental health.*

**Santiago, Jon-Jon** *(Dr. Elissavet Kardami) Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: Regulation and secretion of pro-hypertrophic high molecular weight fibroblast grow factor-2.*

**Shoja Saffar, Arash** *(Dr. A. Soussi Gounni) Department of Immunology, Faculty of Medicine, University of Manitoba. Title: Molecular pathways of glucocoricoid induced survival of human neutrophils/Pathobiology of human periperbal blood neutrophils in asthma.*

**Singal, Tushi** *(Dr. N.S. Dhalla) Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: Role of phospholipases in mediating cardiac hypertrophy.*

**Slater, Joyce** *(Dr. Gustaaf Sevenhuysen) Department of Human Nutritional Sciences, Faculty of Human Ecology, University of Manitoba.*
*Title: An exploration of socio-environmental influences on obesity in the Canadian population.*

**Wakefield, Andrew** *(Dr. Harold Aukema) Department of Human Nutritional Sciences, Faculty of Human Ecology, University of Manitoba.*
*Title: Impact of long-term consumption of high protein diets on renal health: Implications for dietary recommendations for Canadians.*

**Zamzow, Christina** *(Dr. Fiona Parkinson) Department of Pharmacology & Therapeutics, Faculty of Medicine, University of Manitoba.*
*Title: Adenosine release: Interplay between neurons and astrocytes in stroke.*

# PhD Dissertation Award

Dissertation awards are provided to students enrolled in a PhD program in population health or health-related social sciences in Manitoba who have completed all relevant course work and whose dissertation proposal has been approved by their PhD Advisory Committees. The awards, for up to $5,000, are to be used to cover costs incurred in the conduct of the students' dissertation research.

## Focus on Funding

**Kimberley Ryan-Nicholls**

***"Self-funding is an option for many researchers but having access to outside funding sources is of huge value to all of us who undertake these projects."***

## Determining Content for Graduate Psychiatric Mental Health Nursing Education

*Brandon University and the University of Calgary*

Kimberly Ryan-Nicholls' doctoral research into the composition and development of a strong graduate degree program in psychiatric mental health nursing comes at a crucial time. With an impending shortage of registered psychiatric nurses (RPNs) in Canada, there has been a commitment by governments to reinvest in psychiatric nursing education. However, there is also a notable shortage of qualified psychiatric nursing faculty at the graduate degree level and scarce opportunities for RPNs to access graduate education programs.

*"Building a program of excellence for graduate students is necessary for psychiatric mental health nursing to grow,"* Ryan-Nicholls states.

Ryan-Nicholls, an Associate Professor in Brandon University's School of Health Studies and University of Calgary doctoral nursing student, has gathered data from international sources to gain an understanding of the criteria required to build an effective graduate psychiatric mental health nursing program. The Brandon native says the aim of her qualitative study, which collected information from universities in Australia, New Zealand and the United States, is to learn how particular universities determine their programs of study, ascertain their core content and establish appropriate strategies for instruction.

*"I believe that once the data is analyzed and interpreted that it will go a long way to influencing the development of new curriculums at Canadian universities,"* says Ryan-Nicholls.

### Recipient (Supervisor) Department, Faculty, Institution.

**Ryan-Nicholls, Kimberley** *(Dr. Margaret Hunsberger) Department of Psychiatric Nursing, School of Health Studies, Brandon University. Title: The criteria for determining the content needed in effective graduate psychiatric nursing education.*

# Bridge Funding Awards

Bridge funding awards are once only, one-year awards designed to allow experienced, productive investigators, who have lost funding from a major national agency, to maintain their research operation while they attempt to regain national funding. This program leveraged an additional $85,000 in funding from local research institutions.

**Bhullar, Rajinder,** *Department of Oral Biology, Faculty of Dentistry, University of Manitoba*
*Title: Ral signaling pathway and cardiac function.*

**Fernyhough, Paul,** *Division of Neurodegenerative Disorders, St. Boniface Hospital Research Centre*
*Title: Impaired calcium homeostasis and mitochondrial dysfunction in diabetic sensory neuropathy.*

**Mesaeli, Nasrin,** *Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre*
*Title: Regulation of vascular function in transgenic mice overexpressing calriticulin.*

**Tappia, Paramjit,** *Depts of Human Nutritional Sciences and Human Anatomy & Cell Science, Faculty of Medicine, University of Manitoba*
*Title: Role of oxidative stress in the ischemia-reperfusion induced changes in phospholipase C isozymes in the heart.*

# Sponsorships

The Council sponsored four events which build research collaborations within their specific areas of interest:

- Biology of Breathing Symposium
- The Global Conference on the Future of Heart Health and Disease
- 2006 ICID Research and Innovation Retreat
- 2007 Canadian Student Health Research Forum in support of the MHRC Post-Doctoral Fellow Poster Award - Dr. George Skliris.

Dr. Tammy Ivanco

# Regional Partnership Program Grants

## Operating Grants

The program provides partnership awards (matching funds) to individuals who have been awarded Canadian Institutes of Health Research Regional Partnership Program (CIHR-RPP) operating grants. Funding for this program is made available through the Department of Science, Technology, Energy and Mines and leaveraged an additional $980 thousand into Manitoba from CIHR.

## Focus on Funding
## Dr. Tammy Ivanco

***"It's vital that researchers like myself have access to funding from organizations like MHRC. Funding makes research happen because it pays for what's needed, when it's needed."***

### Exploring the Genetics of Autism

**Dr. Tammy Ivanco**

*Department of Psychology, University of Manitoba*

For Dr. Tammy Ivanco, a psychologist at the University of Manitoba, investigating Autism's genetic risk factors (such as Fragile X Syndrome) and gaining insight into therapeutic options, is essential to increasing the chances of finding a cure for the lifelong disability. While Autism's cause isn't yet known, genetics are suspected to play a key role in its onset. It's anticipated that Dr. Ivanco's examination of animal models of Autism and Fragile X will determine relationships between brain and behaviour in the disorders and define those characteristics that may be susceptible to treatments or preventive measures.

*"The study is a building block of my ongoing study of Autism,"* says the British Columbia native whose passion for research was inspired by two professors in her undergraduate program at University of Lethbridge. *"Using animal models is relatively new in Autism research and it offers the insight into anatomy and behaviour that human research can't."*

Dr. Ivanco says she expects the models to show whether behavioural or pharmacological treatments for the disorders are influencing only behaviours or the underlying brain function and anatomy. Her research, she trusts, is a step forward in finding a cure for a disability with significant social and economic effects.

## Recipient, Department, Institution.

**Anderson, Christopher,** *Divison of Neurodegenerative Disorder, St. Boniface Hospital Research Centre.*
*Title: Regulation of cerebral blood flow by vascular NMDA receptors.*

**Czubryt, Michael,** *Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: The role of transcription factor Zac1 in regulating cardiac gene expression.*

**Gu, Xiaochen,** *Faculty of Pharmacy, University of Manitoba.*
*Title: Study of toxicological profiles from concurren use of the insect repellent DEET and the sunscreen oxybenzone.*

**Hryshko, Larry,** *Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: Structure-function relationships of sodium-calcium exchangers.*

**Ivanco, Tammy,** *Department of Psychology, Faculty of Arts, University of Manitoba.*
*Title: Investigating Autism: Evaluating Fragile X Mental Retardation Syndrom and Developmental Teratogen Exposure as risk factors.*

**Jones, Peter,** *Richardson Centre for Functional Foods and Nutraceuticals, University of Manitoba.*
*Title: Identification of polymorphismin the genes regulated by LXRs and PPARs of lipid metabolism pathway as a novel genetic marker of plant sterol metabolism.*

**Lautt, Wayne,** *Department of Pharmacology, Faculty of Medicine, University of Manitoba.*
*Title: Impact of high sucrose diets.*

**Longobardi, Teresa,** *Department of Internal Medicine, Faculty of Medicine, University of Manitoba.*
*Title: Lifetime cost of inflammatory bowel disease.*

**Los, Marek,** *Department of Biochemistry & Medical Genetics, CancerCare Manitoba.*
*Title: The role of Nur77-dependent pathways in apoptin's cancer.*

**Miller, Donald,** *Department of Pharmacology & Therapeutics, University of Manitoba.*
*Title: Sphingoisine 1-phosphate and blood-brain barrier permeability.*

**Marotta, Jonathan,** *Department of Psychology, Faculty of Arts, University of Manitoba.*
*Title: Visumotor processing the sensorimotor integration in the parietal cortex.*

**Minuk, Gerald,** *Department of Internal Medicine, Faculty of Medicine, University of Manitoba.*
*Title: The molecular evolution of the Hepatitis B virus.*

**Mizuno, Tooru,** *Department of Physiology, Faculty of Medicine, University of Manitoba.*
*Title: Crosstalk between the brain and the liver.*

**O, Karmin,** *Department of Animal Science, St. Boniface Hospital Research Centre.*
*Title: Effect of folic acid on hyperhomocysteinemia.*

**Polyzois, Dimos**, *Department of Civil Engineering, Faculty of Engineering, University of Manitoba.*
*Title: Respiratory health, housing conditions and school absenteeism among nine-year old children in Winnipeg.*

**Shen, Garry,** *Department of Internal Medicine, Faculty of Medicine, University of Manitoba.*
*Title: Mechanism for over expression of plasminogen activator inhibitor-1 in vascular endothelial cells.*

**Singal, Pawan,** *Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: Interactive role of IL-10 and TNF-alpha in the pathogenesis.*

**Stephens, Newman,** *Department of Physiology, Faculty of Medicine, University of Manitoba.*
*Title: Airway smooth muscle relaxation: modulation by development of mechanical plasticity.*

**Targownik, Laura,** *Department of Internal Medicine, Faculty of Medicine, University of Manitoba.*
*Title: Use of a population-based health care utilization database.*

**Wilkins, John,** *Department of Internal Medicine, Faculty of Medicine, University of Manitoba.*
*Title: Molecular analysis of leukocyte adhesion and migration.*

**Yang, Xi,** *Department of Medical Microbiology, Faculty of Medicine, University of Manitoba.*
*Title: Host immune response to chlamydial infection: Molecular and cellular basis.*

**Zahradka, Peter,** *Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: Modulation of vascular smooth muscle cell.*

**Zhang, Shetuan,** *Department of Physiology, Faculty of Medicine, St. Boniface Hospital Research Centre.*
*Title: The molecular mechanisms of drug-induced long QT syndrome and sudden cardiac death.*

# Community

"Do not follow where the path may lead. Go instead where there is no path and leave a trail."—*Harold R. McAlindon*

# Review Committees

## 2006 Operating & Establishment Grants Scientific Review Committee

LEFT TO RIGHT

Dr. Etienne Leygue
Dr. Peter Zahradka
Dr. Lizann Bolinger
Dr. James Gilchrist (Chair)
Dr. Janice Richman-Eisenstat
Dr. Steven Jones
Dr. Teresa Dekievit
Dr. Jingxin Cao
Dr. Archie McNicol
Dr. Brent Fedirchuk and
Dr. Jiming Kong.

Dr. James Gilchrist, *Chair, Department of Oral Biology, Faculty of Dentistry, University of Manitoba*

Dr. Lizann Bolinger, *Institute for Biodiagnostics, National Research Council*

Dr. Jingxin Cao, *Canadian Science Centre for Human and Animal Health*

Dr. Teresa de Kievit, *Department of Microbiology, Faculty of Science, University of Manitoba*

Dr. Brent Fedirchuk, *Department of Physiology, Faculty of Medicine, University of Manitoba*

Dr. Steven Jones, *Departments of Immunology & Medical Microbiology, Canadian Science Centre for Human & Animal Health*

Dr. Jiming Kong, *Department of Human Anatomy & Cell Science, Faculty of Medicine, University of Manitoba*

Dr. Etienne Leygue, *Department of Biochemistry and Medical Genetics, Faculty of Medicine, University of Manitoba*

Dr. Archie McNicol, *Department of Oral Biology, Faculty of Dentistry, University of Manitoa*

*Dr. Janice Richman-Eisenstat, Manitoba Institute of Cell Biology, CancerCare Manitoba*

Dr. Peter Zahradka, *Department of Physiology, St. Boniface Hospital Research Centre*

## 2006 Personnel Awards Scientific Review Committee

LEFT TO RIGHT

Dr. Jim House
Dr. David Eisenstat
Dr. Gordon Glazner
Dr. Janice Dodd (Chair)
Dr. Laverne Vercaigne
Dr. Julia Rempel
Dr. Thomas Klonisch
Dr. Fiona Parkinson
Dr. Xiao Yao
Dr. Keith Fowke and
Dr. Rotimi Aluko

Dr. Janice Dodd, *Chair, Department of Physiology, Faculty of Medicine, University of Manitoba*

Dr. Rotimi Aluko, *Department of Human Nutritional Sciences, Faculty of Human Ecology, University of Manitoba*

Dr. David Eisenstat, *Cancer Care Manitoba, Health Sciences Centre*

Dr. Keith Fowke, *Department of Medical Microbiology, Faculty of Medicine, University of Manitoba*

Dr. Gordon Glazner, *Department of Pharmacology, Faculty of Medicine, St. Boniface Hospital Research Centre*

Dr. Jim House, *Faculty of Agriculture and Food Sciences, University of Manitoba*

Dr. Thomas Klonisch, *Department of Human Anatomy & Cell Science, Faculty of Medicine, University of Manitoba*

Dr. Fiona Parkinson, *Department of Pharmacology, Faculty of Medicine, University of Manitoba*

Dr. Julia Rempel, *Department of Internal Medicine, Faculty of Medicine, University of Manitoba*

Dr. Laverne Vercaigne, *Faculty of Pharmacy, University of Manitoba*

Dr. Xiao Yao, *Department of Medical Microbiology, Faculty of Medicine, University of Manitoba*

## 2006 Social/Population Health Scientific Review Committee

LEFT TO RIGHT

Dr. Lorna Jakobson
Dr. Lori Wilkinson
Dr. Brenda Elias
Dr. Javier Mignone (in front)
Dr. Evelyn Forget
Dr. Michelle Porter (Chair)
Dr. Diana Clarke
Dr. Pamela Hawranik
Dr. Michelle Lobchuk and
Dr. Andrea Kilgour

Dr. Michelle Porter, *Chair, Faculty of Physical Education & Recreation Studies, University of Manitoba*

Dr. Diana Clarke, *Department of Psychiatry, Faculty of Medicine, University of Manitoba*

Dr. Brenda Elias, *Department of Community Health Sciences, Faculty of Medicine, University of Manitoba*

Dr. Evelyn Forget, *Department of Community Health Sciences, Faculty of Medicine, University of Manitoba*

Dr. Pam Hawranik, *Faculty of Nursing, University of Manitoba*

Dr. Lorna Jakobson, *Psychological Service Centre, Faculty of Arts, University of Manitoba*

Dr. Andrea Kilgour, *Department of Clinical Health Psychology, Faculty of Medicine, University of Manitoba*

Dr. Michelle Lobchuk, *Faculty of Nursing, University of Manitoba*

Dr. Javier Mignone, *Department of Family Social Sciences, Faculty of Human Ecology, University of Manitoba*

*Dr. Lori Wilkinson, Department of Sociology, Faculty of Arts, University of Manitoba*

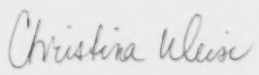
# Commitment

"I know the price of success: dedication, hard work,
and an unremitting devotion to the things you want to see happen."
— *Frank Lloyd Wright (1867-1959)*

# Management Report

The accompanying financial statements are the responsibility of management and have been prepared in accordance with generally accepted accounting principles. In management's opinion, the financial statements have been properly prepared and of necessity include some amounts based upon management's best estimates and judgements.

As management is responsible for the integrity of the financial statements, management has established systems of internal control to provide assurance that assets are properly accounted for and safeguarded from loss.



Christina Weise
Executive Director
April, 2007

BDO Dunwoody LLP/s.r.l.
Chartered Accountants and Advisors
Comptables agréés et conseillers

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# Auditors' Report

To the Legislative Assembly of Manitoba:

We have audited the statement of financial position of MANITOBA HEALTH RESEARCH COUNCIL as at March 31, 2007 and the statements of operations and fund balances and cash flows for the year then ended. These financial statements are the responsibility of the organization's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the organization as at March 31, 2007 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

BDO Dunwoody LLP

Chartered Accountants
Winnipeg, Manitoba
April 19, 2007

**BDO Dunwoody LLP** *is a Limited Liability Partnership registered in Ontario*
**BDO Dunwoody s.r.l.** *est une société à responsabilité limitée constituée en Ontario*

# Statement of Financial Position

| March 31, 2007 | 2007 | 2006 |
|---|---|---|
| **Assets** | | |
| **Current Assets** | | |
| Cash and bank (Note 2) | $ 606,700 | $ – |
| Short-term investments | | |
| Market value 2007 – $191,109 (2006 – $633,684) | 188,118 | 636,874 |
| Accounts receivable | 269,193 | 1,332 |
| Accrued interest receivable | 3,015 | 3,679 |
| Prepaid expenses | 2,157 | 2,156 |
| Deposits | 500 | 500 |
| | 1,069,713 | 644,541 |
| **Capital Assets** (Note 3) | 4,368 | 5,064 |
| | $ 1,074,081 | $ 649,605 |
| **Liabilities and Fund Balances** | | |
| **Current Liabilities** | | |
| Bank indebtedness (Note 2) | $ – | $ 25,167 |
| Accounts payable and accrued liabilities | 11,016 | 12,402 |
| Research grants payable | 803,656 | 269,783 |
| | 814,672 | 307,352 |
| **Commitments** (Note 5) | | |
| **Fund Balances** | | |
| General Research Fund (Page 25) | 225,198 | 301,426 |
| Regional Partnerships Program Fund (Page 25) | 34,211 | 40,827 |
| | 259,409 | 342,253 |
| | $ 1,074,081 | $ 649,605 |

Approved on behalf of the Board:

Director

Director

*The accompanying summary of significant accounting policies and notes are an integral part of these financial statements.*

# Statement of Operations and Fund Balances

| For the year ended March 31 | General Research Fund | Regional Partnership Fund | 2007 Total | 2006 Total |
|---|---|---|---|---|
| **Revenue** | | | | |
| Province of Manitoba grants | $1,952,600 | $ 892,080 | $2,844,680 | $2,576,929 |
| Grants returned/rescinded | 142,571 | 81,943 | 224,514 | 128,512 |
| Investment income | 51,858 | – | 51,858 | 37,726 |
| Summit grant | 25,000 | – | 25,000 | – |
| | 2,172,029 | 974,023 | 3,146,052 | 2,743,167 |
| **Expenditures** | | | | |
| Administration (Page 28) | 346,061 | | 346,061 | 215,890 |
| Personnel awards | 861,800 | – | 861,800 | 1,081,150 |
| Research grants | 1,040,396 | 980,639 | 2,021,035 | 1,618,482 |
| | 2,248,257 | 980,639 | 3,228,896 | 2,915,528 |
| **Deficiency of revenue over expenditures for the year** | (76,228) | (6,616) | (82,844) | (172,361) |
| **Fund balances,** beginning of year | 301,426 | 40,827 | 342,253 | 514,614 |
| **Fund balances,** end of year (Page 24) | $ 225,198 | $ 34,211 | $ 259,409 | $ 342,253 |

# Statement of Cash Flows

| For the year ended March 31 | 2007 | 2006 |
|---|---|---|
| **Cash Flows from Operating Activities** | | |
| Deficiency of revenue over expenditures for the year | $ (82,844) | $ (172,361) |
| Adjustments for amortization of capital assets | 1,092 | 1,266 |
| | (81,752) | (171,095) |
| Changes in non-cash working capital balances | | |
| Short-term investments | 448,756 | 260,620 |
| Accounts receivable | (267,861) | (57) |
| Accrued interest receivable | 634 | 6,086 |
| Prepaid expenses | (1) | – |
| Accounts payable and accrued liabilities | (1,386) | (665) |
| Research grants payable | 533,873 | 23,761 |
| | 632,263 | 119,252 |
| **Cash Flows from Investing Activities** | | |
| Purchase of capital assets | (396) | (2,204) |
| **Increase in cash and cash equivalents during the year** | 631,867 | 117,048 |
| **Bank indebtedness,** beginning of year | (25,167) | (142,215) |
| **Cash (bank indebtedness)** end of year | $ 606,700 | $ (25,167) |
| **Supplementary Information:** | | |
| Interest received | $ 52,492 | $ 44,440 |

*The accompanying summary of significant accounting policies and notes are an integral part of these financial statements.*

# Summary of Significant Accounting Policies

March 31, 2007

These financial statements have been prepared by management in accordance with Canadian generally accepted accounting principles.

**Financial Instruments**

The organization's financial instruments consist of cash and bank, accounts receivable, short-term investments, accrued interest receivable, bank indebtedness, research grants payable and accounts payable. Unless otherwise noted, it is management's opinion that the organization is not exposed to significant interest, currency or credit risks arising from these financial instruments. The fair values of these financial instruments approximate their carrying values, unless otherwise noted.

**Short-Term Investments**

Short-term investments are stated at the lower of cost and market value.

**Capital Assets**

Capital assets are stated at cost less accumulated amortization.
Amortization, based on the estimated useful life of the asset, is calculated as follows:
Office equipment 20% diminishing balance basis
Computer equipment 30% diminishing balance basis

**Fund Accounting**

The Manitoba Health Research Council follows the restricted fund method of accounting for contributions.

The General Research Fund reports only restricted resources that are used for research purposes. General research grants are charged to expenditures in the year the funding is committed for by Council. Research grants returned to or rescinded by the Council are recorded as revenues when received or rescinded.

Regional Partnership awards are charged to expenditures when funding is received from the Province of Manitoba. Regional partnership awards returned to or rescinded by the Council are recorded as revenues when received or rescinded.

**Revenue Recognition**

Grant revenue is reflected in income in the period in which the grant is received or becomes receivable. Interest income is recognized as revenue when earned and is allocated proportionately to the Funds on the basis of monthly Fund balances.

**Personnel Awards**

Personnel awards and their renewals are charged to expenditures when funding is approved by Council.

**Administrative Expenditures**

Administration expenses are allocated 100% to the General Research Fund.

# Notes To Financial Statements

March 31, 2007

## 1. Entity definition

The Manitoba Health Research Council was established by The Manitoba Health Research Council Act to promote and assist basic, clinical and applied research in the health sciences in Manitoba. The Manitoba Health Research Council is a registered charity and is exempt from tax under the Income Tax Act.

## 2. Cash and Bank (Bank Indebtedness)

| | 2007 | 2006 |
|---|---|---|
| Bank of Montreal current account | $ 605,225 | $ 15,599 |
| Wellington West cash account | 1,475 | (40,766) |
| | $ 606,700 | $ (25,167) |

## 3. Capital Assets

| | 2007 | | 2006 | |
|---|---|---|---|---|
| | Cost | Accumulated Amortization | Cost | Accumulated Amortization |
| Office equipment | $ 7,454 | $ 5,738 | $ 7,058 | $ 5,308 |
| Computer equipment | 6,955 | 4,303 | 6,955 | 3,641 |
| | $ 14,409 | $ 10,041 | $ 14,013 | $ 8,949 |
| Cost less accumulated amortization | | $ 4,368 | | $ 5,064 |

## 4. Related Party Transactions

Manitoba Health Research Council is related to all Province of Manitoba departments and agencies. During the year, the Council had the following transactions with related organizations:

| | 2007 | 2006 |
|---|---|---|
| Grant Revenue | $2,844,680 | $2,576,929 |
| Office Rent at no charge – University of Manitoba | – | – |

These transactions are in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

## 5. Commitments

The Manitoba Health Research Council has committed grants and awards under the General Research Fund and the Regional Partnership Fund as follows:

| Year | General Research Fund | Regional Partnership Fund | Total |
|---|---|---|---|
| 2007 | $ 851,947 | $ 338,610 | $1,154,557 |
| 2008 | 112,904 | – | 112,904 |
| | $928,851 | $ 338,610 | $1,267,461 |

Commitments of future years of the General Research Fund and Regional Partnership Fund are not recorded as an expenditure in the year of commitment, they are recorded as an expenditure in the year they are committed for.

These commitments will be funded as follows:

| | |
|---|---|
| Current General Research Fund Balance | $ 225,198 |
| Current Regional Partnership Fund Balance | 40,827 |
| Future Province of Manitoba grants | 1,001,436 |
| | $1,267,461 |

## 6. ECONOMIC DEPENDENCE

The Manitoba Health Research Council relies almost entirely on grants from the Province of Manitoba.

# Schedule of Administrative Expenses

| For the year ended March 31 | 2007 | 2006 |
|---|---|---|
| Accounting and audit | $ 3,754 | $ 3,749 |
| Amortization | 1,092 | 1,266 |
| Bank charges and interest | 217 | 364 |
| Communications | 16,584 | 16,718 |
| Conferences, meetings and travel | 5,093 | 5,033 |
| Council and committee expenses | 5,933 | 4,279 |
| Delivery | 2,831 | 935 |
| GST expense | – | 169 |
| Insurance | 4,272 | 4,272 |
| Parking | 1,681 | 816 |
| Printing, stationery and office supplies | 7,636 | 7,346 |
| Promotions | 4,450 | 4,300 |
| Repairs and maintenance | 1,944 | 3,976 |
| Salaries and benefits | 197,262 | 161,273 |
| Telephone | 1,966 | 1,638 |
| Summit Expenses | 91,346 | – |
| | $ 346,061 | $ 215,890 |

Manitoba Health Research Council

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Website: www.mhrc.mb.ca